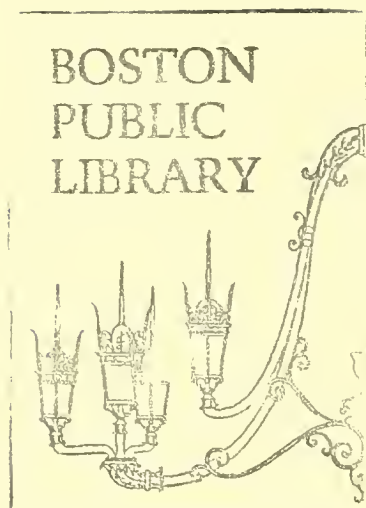


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Estimating the Impact of 100% Valuation
and Taxation by Classification in Massachusetts: Part I

prepared for
Massachusetts Mayors' Association
June 14, 1978



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Estimating the Impact of 100% Valuation
and Taxation by Classification in Massachusetts: Part I

prepared for
Massachusetts Mayors' Association

by Raymond G. Torto Ph.D.

June 14, 1978

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Preface

This November the voters of Massachusetts will face a most important question -- should they change the constitution to allow taxation by classification? Their answer will have dramatic consequences for the tax bills of residential property. Without taxation by classification, taxation by 100% valuation of all property will become reality in Massachusetts with its all too obvious consequences -- a shift of \$265m in taxes presently being paid by businesses onto residential property owners.

This report, the first of a series, spells out, as best as possible given the lack of sufficient data, the effects of 100% valuation and the implications of taxation by classification, vis-a-vis residential property. There is one unmistakable conclusion from the analysis: Residential taxpayers are much better off under classification than under 100% valuation.

Taxation by classification will save the homeowner or renter from paying a tax bill which will be about 17% higher, on average, due to 100% valuation.

It is anticipated that there will be much discussion concerning the effects of both 100% valuation and classification based on data analysis. The underlying data bases that all researchers will most likely employ is the biennial survey of equalized values from the Department of Corporations and Taxation. This is the only data base available, but it is not adequate to predict precisely what will happen under either 100% valuation or under classification. The data can only be used to illustrate and not to predict. Furthermore, the data is not consistent with the proposed classification model and is, at a minimum, already one year old.

Nevertheless, a debate on numbers will probably follow the release of this report. In order to be candid about our use of the data and the methodology we have used, we have added three appendices to our report which present our assumptions and methodology, as well as a partial analysis of the data and our conclusions concerning the data. It is crucially important, for the purposes of an honest debate on the numbers, that all researchers make a detailed disclosure of their analytic assumptions and methodology. We have done so. We challenge all others to seek the same level of scholarship and disclosure. Disraeli once said: "There are 3 types of liars: liars, damn liars, and statistics".

Raymond G. Torto Ph.D.

Special Assistant to the Mayor for Tax Policy
City of Boston

June 7, 1978

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Finally, two individuals who deserve particular credit and praise are John Avault and Karl Sittler, who provided the technical and computer background so necessary for this analysis. This support is part of the Boston Tax Policy Analysis and Planning Study under HUD Research Grant H-2628-RG. Alexander Ganz of the Boston Redevelopment Authority is the Tax Study Project Director.

Without the help and dedication of all these people, this report would have never been produced.

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I. Introduction

The cities and towns in Massachusetts are under a 1974 Supreme Court order to revalue their real and personal property so that assessed values are equal to the full and fair cash value of these properties. This decision, known as the Sudbury case, resulted from a class action suit brought by the "residents, taxpayers and officials" of Sudbury. At issue was Sudbury's contention that it was being penalized by reduced state aid resulting from adherence to the legal, full-value assessing standard while many other communities were not meeting this standard. Sudbury's complaint was valid. The court's assumption that justice for Sudbury required state-wide enforcement of the full-value assessment law is, however, debatable. Ironically, since 1974 the equalized valuations of the State Tax Commission have effectively resolved the state aid issue in Sudbury's favor without the enforcement of full-value assessment. Nevertheless, the Court's mandate exists and the cities and towns are in various stages of the process of revaluation.

The revaluation mandated by the Court will change the distribution of the property tax burden in Massachusetts. For many reasons, the current assessments in most cities and towns are not only factional, but disproportionate in favor of the residential class. The assessments on the commercial and industrial sectors are at a higher ratio of assessed value to market value than is residential property. The implication of the current distribution of assessments is that a good share of the current property tax burden on commercial and industrial property will shift to the residential sector following revaluation. This paper looks at these expected shifts, under 100% valuation and under a proposed alternative, taxation by classification. It is the first part of a series of studies on this subject.

The paper is divided into five sections. Following the introduction, a description of the summary analytic categories is presented. These categories are then used to analyze the effects of 100% valuation in Massachusetts in Section III and the effects of classification in Section IV. Section V presents a brief summary and conclusions.

Probably the most important parts of this paper are in the Appendices, especially Appendices II to IV, which present the analytic methodologies and assumptions necessary to the work of this paper. These appendices explain our analytic procedures.

With 351 cities and towns in Massachusetts it is necessary for ease of comprehension to begin our analysis by grouping these cities and towns. We have chosen to do this by dividing the cities and towns into 4 population groupings. The groupings are cities and towns:

- a. over 50,000 population
- b. 25,000 to 50,000 population
- c. 10,000 to 25,000 population
- d. less than 10,000 population

Table I, shows the distribution of Massachusetts's 351 cities and towns and Massachusetts' population by these categories. As the reader can observe, about 60% of the number of cities and towns in Massachusetts comprise only 13% of the state's population. On the other hand, the 22 largest cities and towns in Massachusetts comprise about 42% of the state's population but only 6% of the share of the number of cities and towns. In the analysis that follows we will employ these population groups as a summary means of analysis.

Besides breaking the state into population groups, we subdivide the state into those communities essentially at or near 100% valuation and those communities which have yet to implement 100% valuation. Our analysis indicates there are 103 municipalities (3 cities and 100 towns) that either are at an assessment-to-sales ratio greater than 90% and/or are judged by the Tax Commissioner to be in compliance with the Sudbury decision. Only one community of the 103 is in the population group of over 50,000 (Brockton; 95,688); 72 (or 70%) of the communities are in the population group of less than 10,000. The 103 communities already at 100% valuation comprise a small share of the states' total population - 15.8%. In our following analysis, we exclude the 103 communities from our sample and concentrate entirely on the remaining cities and towns -¹ those which face the effects of 100% valuation in the near future.

¹ In these 103 communities the impact of 100% valuation is known. The impact of classification needs to be demonstrated and a report is in preparation. It is already clear, however, that in these communities residential tax bills will decline.

Table I. Frequency Distribution of Massachusetts
Cities and Towns by Population Size Groups

<u>Population Group</u>	<u># Cities & Towns</u>	<u>% Share</u>	<u>Population in Each Group</u>	<u>% of Population in each Group</u>
50,000 - Above	22	6.3	2,434,971	42.06%
25,000 - 50,000	39	11.1	1,206,196	20.83%
10,000 - 25,000	87	24.8	1,403,749	24.25%
10,000 - less	203	57.8	744,562	12.86%
<u>Total</u>	351	100.0	5,789,478	100%

Source: BPA Research/C. Carlaw/March 20, 1978
from Massachusetts State Census, 1975.

Non-100% Municipalities

The communities not at 100% valuation can be divided, as above, into four population categories. The share of population for the sample and the state are given in Table II. The cities and towns in the 50,000+ population grouping include 17 cities and 4 towns (Arlington, Brookline, Framingham, and Weymouth).

Table II Population Distribution for
Non-100% Municipalities

<u>Population Group</u>	<u>Share of Sample Population</u>	<u>Share of State Population</u>
50,000+	47%	40%
25 - 50,000	23	19
10 - 25,000	20	17
less than 10,000	<u>10</u>	<u>8</u>
	100%	84%

Fiscal Characteristics of Sample

Besides looking at the share of population by grouping, it is instructive to analyze the population groupings by their fiscal characteristics. Table III presents data on the overall level of taxation. There are a number of unmistakable conclusions from this analysis:

1. The highest effective tax rate, 5.7%, is in the largest cities and towns, and the rate declines significantly as we go to the small population communities.
2. The lowest per capita income figures are in the largest cities and towns which is indicative of the urban poverty population. These cities and towns with 40% of the state's population have 58% of the state's poverty population.
3. The combination of high property taxes and low income combine to make taxes as a percent of income, - 9.53% - the highest in the largest cities and towns.

In sum, the larger communities in Massachusetts have the highest property tax burdens.

Table III. Pertinent Fiscal Characteristics of Non-100% Municipalities

Population Groups	Effective ¹ Tax Rate	Share of Property Tax Levy	Per Capita Income	Taxes as a percent of income
50,000 +	5.7%	50%	\$5,711	9.53%
25-50,000	3.6%	22%	6,222	8.14
10-25,000	3.2%	19%	6,156	7.95
less than 10,000	2.5%	9%	5,736	7.73
<u>Totals</u>				
	4.1%	100%	5,917	8.70

¹ The effective tax rate is the percent of the value of property paid in taxes each year.

The larger cities and towns, besides having a higher level of property taxes, also have a larger share of their property taxes paid for by commercial, industrial and utility property. This is evidenced in Table IV where the share of taxes paid by business is given for each population group. The fact that a 46% share of property taxes is presently paid by business in the larger municipalities helps mitigate the high level of taxes on residential property but also, it portends a larger shift of property taxes onto residential property as a consequence of 100% valuation.

Another distributional factor of some interest is demonstrated in Table V. Here we see that the larger cities and towns, which have only 29% of the single family homes have 80% and 70%, respectively, of the 3 family and multi-family of over 4 unit homes. In addition, we see that 66% and 68%, respectively, of the commercial and industrial properties¹ are in the first two population groups.

In sum, it is in the first two population groups that the 100% valuation problem - the shift of taxes off business and onto residences - will be most pronounced. In addition, it is these municipalities who have the predominate share of multi-family housing and commercial and industrial property.

III. The Effect of 100% Valuation

To present the effects of 100% valuation we have chosen the results from box A (See Appendix III). This presents an estimate of the worst possible case for residential property due to 100% valuation.² Some of the results by class of property are presented in Table VI. As can readily be observed, the average state-wide effect of 100% revaluation is to increase bills on one, two and three family residential property

¹ In terms of valuation, the first two population groups make up an even more significant share of commercial and industrial property. There is 76% share of commercial property and a 70% share of industrial property in the first two population group communities.

² The difference from this "worst possible case" to the use of results, say, from box C, which we use later, ranges from 3 to 7 percentage points.

Table IV: Share of Taxes Now Paid by Business by Population
Group of Non-100% Municipalities*

<u>Population Group</u>	<u>Share of total tax levy paid by business</u>
50,000	46%
25-50,000	32
10-25,000	22
less than 10,000	21
<u>Total</u>	<u>36%</u>

* In making this calculation we aggregated the taxes paid by commercial, industrial and personal property. It is assumed here that all personal property is utility property. On the other hand, RC property was not calculated as, in any part, business property.

Table V Distribution of Parcels by Real Property Class

<u>Population Groups</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>	<u>R4</u>	<u>RC</u>	<u>C</u>	<u>I</u>	<u>AH</u>	<u>L</u>
50,000	29%	60%	80%	70%	43%	46%	41%	.5%	19%
25-50,000	25%	22%	13%	17%	20%	20%	27%	9%	23%
10-25,000	29%	12%	5%	9%	17%	23%	20%	27%	31%
less than 10,000	17%	6%	2%	4%	20%	12%	12%	64%	26%
<u>Total</u>									
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table VI Effects of 100% Valuation On Average Tax Bills
by Population Groups and Across the State

<u>Population Group</u>	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>4+ Family</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Vacant Land</u>
50,000 +	+35%	+29%	+17%	-9%	-20%	-32%	+85%
25 - 50,000	+15%	+19	+10	-3	-18	-30	+45
10 - 25,000	+ 6	+ 3	+ 5	-8	-13	-21	+47
less than 10,000	+ 6	+ 6	+ 3	-5	-13	-24	+51
State-wide	+17%	+23%	+15%	-8%	-19%	-30%	+63%

by 17%, 23% and 15%, respectively, with concomitant declines in commercial and industrial property of 19% and 30%, respectively. The state-wide effects of 100% valuation are distributed quite unevenly by population groups. It is the larger cities and towns, followed by the medium size cities who are, on average, most adversely affected by 100% valuation. And, it is the older, industrial cities in particular which show the highest residential tax bill increases due to the effects of 100% valuation.¹

¹ As to the matter of the adverse effects of 100% valuation on residential property, particularly in the cities, there is little dispute between the proponents and opponents of classification. Opponents of classification have termed the effects of 100% valuation as a "social disaster" and as a "social disruption" for the cities.

To mitigate the consequences of 100% valuation there is one policy option available at this time. This is to establish a classification system for property according to use and to allow differential assessment-to-market ratios in each class. Presently, such a system exists "de facto" in Massachusetts, especially in the cities, but it is extralegal and will be eliminated by 100% valuation. The only way a classification scheme would be legal in Massachusetts is to have a constitutional change. Such a provision will be on the ballot in November, 1978 at which time the people will approve or not approve a change in the constitution to allow "no more than 4 classes" of real property for the purposes of taxation.

The classification proposal on the ballot reads as follows:

Article of Amendment

Article IV of chapter 1 of Part the Second of the Constitution is hereby amended by inserting after the words "and to impose and levy proportional and reasonable assessments, rates and taxes, upon all the inhabitants of, and persons resident, and estates lying, within said Commonwealth" the words: --, except that, in addition to the powers conferred under Article's XLI and XCIX of the Amendments, the general court may classify real property according to its use in no more than four classes and to assess, rate and tax such property differently in the classes so established, but proportionately in the same class, and except that reasonable exemptions may be granted.

The amendment does not spell out the details on what classification will look like. The details are spelled out in enabling legislation. Such legislation has been proposed, assuming passage of the amendment, by the Massachusetts Mayors Association in order that the public might have some idea of what classification is and how it might affect them.¹ In this section we will briefly present the goals of classification, the arguments in favor of classification, a description of the proposed legislation and the estimate of the proposed classification legislation on tax bills.

¹ As of this writing the proposed legislation is in 3rd reading in the House. The legislation has been endorsed by the League of Cities and Towns and by the Local Government Advisory Committee, among others.

The primary goal of taxation by classification is to stop the shift of taxes now paid by commercial, industrial and utility property onto residential property. The attempt is to hold tax burdens approximately where they are now. It is not the intention of taxation by classification to shift significant amounts of taxes, on average, onto commercial and industrial property.

A second goal of classification is to equalize assessments within the established classes of property. In this way there will be equity of assessment within classes of property but not between classes of property.

It should be emphasized that taxation by classification does not subvert the Sudbury decision with regard to the need for all cities and towns to revalue property and to maintain appropriate assessment records and updates. Taxation by classification stops the shift of business property taxes onto homeowners and renters.

Arguments for Classification

Massachusetts is the one state which relies most on the property tax for state and local tax revenues. This has resulted in a level of property taxation which creates a disincentive to invest in property whether it is business or residential property. In this environment a number of attempts have been made to lessen the severe burden of property taxes. For business, there is 121A limited tax/limited dividend corporations. For homeowners and renters, assessing practices across the state have historically assessed commercial, industrial and utility property at a higher ratio to value than residential property. This has occurred independently across the state in most of the cities and towns. There is today, therefore, a "de facto" classification in operation in Massachusetts. In fact this reflects, in part, a value judgement independently made by each assessor that residential property should be taxed less than business property. A further implication of the current "de facto" system is

that business located in Massachusetts today already has adjusted to the 14.
higher assessments in their pricing structure and job development.

The fact that a "de facto" classification system already exists - and its elimination via taxation by 100% valuation will shift taxes onto residential property - is one of the stronger arguments for a "de jure" classification system. The already higher tax burden on business property is in place. There is agreement from all sides of this issue that 100% valuation is a "social disaster", particularly, in the older, industrial cities. Further, the "de facto" classification system reflects a philosophical argument for classification. This is, the "de facto" system reveals a preference for the view that income-producing property, which has a greater ability to pay, should carry a larger burden of the property tax burden than should homes.

In sum, to stop the shift of current taxes paid by business onto homes and to legalize the current practice of taxing income-producing property more than homes are the main arguments for taxation by classification.

Opponents of taxation by classification offer as their solution - "tax reform", i.e. a reductionⁱⁿ the level of property taxation. We have supported in the past and will continue to support and work for a lowering of property taxes. However, 100% valuation, and "tax reform", without classification as an intermediary step, will mean a tax reduction for business property, and no relief for homeowners and renters. This would occur because 100% valuation will shift taxes now paid by business onto homes. If, after 100% valuation, there is some reduction in the level of property taxes, the net result will be a reduction in business taxes, and no net reduction in the taxes on homes. For example, it is estimated that about \$265M of business taxes will shift from business onto residential property due to 100% valuation. If "tax reform" reduced the level of property taxes by this amount, then the net effect is a reduction of

business taxes of \$265M, and a same level of taxation on homes. Such a proposal is "tax reform" only for business property. The residential property owner will have no relief from property taxation.¹

Taxation by classification will maintain, on average, the current distribution of the burden of taxation on homes versus business. It is a necessary first step to a two step program for property tax relief in Massachusetts. After taxation by classification, the second step is a meaningful program of "tax reform" for reduction in the level of taxation for all property taxpayers in Massachusetts.²

¹ It could also be noted that if this scenario did occur, the one success at tax reform in this state will go to business property. We doubt a second success, which would provide relief to homeowners and renters would ever occur. It is also interesting to note that an analysis of state tax sources shows that the share of state taxes paid by corporations has fallen from 37.2% in 1950 to 14.6% in 1977.

² We have already begun work on a review and analysis of alternative property tax reform proposals. We will be reporting more on this in the future.

The Massachusetts Mayors Association's Proposed Legislation for Taxation by Classification

The classification amendment to the Massachusetts Constitution allows for up to four classes of property. It does not spell out the classes or the ratios of assessment-to-market value within each class. For this reason the Massachusetts Mayors Association has submitted a bill to the legislature to define a proposed classification model and to begin, in concrete terms, a debate on the subject of what form classification might take in Massachusetts. Given the diverse assessing practices within each city and town, it was known that one classification model applied uniformly across all cities and towns would not fit everybody perfectly. Nevertheless, it was felt that the social disruption of 100% valuation is intolerable and that classification would definitely stop the effects of 100% valuation.

The intent of the classification bill is to stop the shift of the property taxes now paid by business onto homeowners as a result of 100% valuation. The bill will establish four classes of real property and apply a different ratio for each.

The classifications and classification ratios are:

- | | |
|----------------|-----|
| 1. Residential | 40% |
| 2. Commercial | 50% |
| 3. Industrial | 55% |
| 4. Open Space | 25% |

In addition, the bill will establish a residential exemption of \$5,000. This exemption is in addition to all other exemptions that presently exist (e.g. elderly, widow, veteran).

The following is an example that shows the effect of classification on residential versus commercial property.

	RESIDENTIAL	COMMERCIAL
Fair Cash Value	\$30,000	\$30,000
Classification Ratio	40%	50%
Assessed Value	12,000	15,000
Residential Exemption	5,000	0
Taxable Value	7,000	15,000
Tax Bill will equal	\$7,000 X local tax rate	\$15,000 X local tax rate

The effect of classification will be to prevent a shift of taxes from businesses to residences, to maintain the historic practice of giving preferential treatment to residential properties, and to equalize property tax assessment within each of the four classifications.

The Residential Exemption

For each parcel of residential property \$5,000 is automatically deducted from the assessed value after the application of the classification ratio. This exemption was introduced into the bill to help the classification model to "fit" better the heterogeneous residential structure in the cities versus the homogeneous residential structure in the towns. It is in the cities of over 50,000 population where there is 80% of three family and 70% of four family plus property. The R4 property, in particular, includes the many large apartment complexes which under current assessing practices is considered commercial property. Because of this, the establishment of one class - residential - which includes single family and four family plus parcels would lead to a shift of taxes within the residential class from multiples to single families. The residential exemption stops this from happening. The reason it works is because the value of single families is much less than the value of multi-family and, of course, the \$5,000 is a higher percentage of market value, the lower is the value of property. Without the residential exemption the proposed classification ratios would not work well, at all, for cities over 50,000 population.

ESTIMATES OF THE EFFECTS OF TAXATION BY CLASSIFICATION¹

The estimates of the effects of Taxation by Classification show a slight decrease in residential tax bills state-wide (-3% to -7%), and a slight increase in commercial and industrial property tax bills (0% to +7%). The numbers demonstrate the effect of classification if imposed today. The current bias of the classification numbers in favor of residential property would most likely be dissipated over time. This would happen because residential property--single family homes, in particular--are increasing the fastest in value. This means that in one to two years, when classification goes into effect across the Commonwealth, the residential share of value would be higher and this would have the effect of reducing the minor increases in commercial and industrial tax bills seen here. All independent evidence on value, as well as a comparison of the 1976-78 equalization survey, support this conclusion. (See Appendix A.II.)

¹Data available from the Department of Corporations and Taxation does not fit exactly the categories proposed by the Classification Bill. For this reason, adjustments to the data were necessary and readers should consult the appendices for our methodology and conclusion concerning the data base. The raw data is questionable and estimates are "ball park". Once again, we repeat our caution that the estimates here, as in the case of 100% valuation, are illustrative and not predictive.

For the first two population groups, in which 70% of the sample population resides, the estimates show a slight decline in residential tax bills (-2% to -6%) and also in industrial tax bills (-3% to +1%). Commercial tax bills show a slight increase (+1% to +11%). For the small population groups, the numbers show a larger decrease for residential property and increase for commercial and industrial property. This happens in these communities because of a number of factors. First, the data on commercial and industrial valuation is sketchy for these communities. Because of this, there is some justifiable skepticism with regard to the estimates here, which is supported by our analysis in Appendix III where it is shown that the average error in predicting commercial and industrial tax bills is over 40%. Second, they are primarily residential in nature and have a small commercial and industrial sector. Third, the increases per parcel are rather small, \$658 and \$2108 for commercial and industrial property in the 10,000 to 25,000 population group, and \$533 and \$1278 for commercial and industrial property in the less than 10,000 population group.¹

¹Small or large, are, of course, relative concepts. We see these average increases per parcel small in relation to the value of this kind of property and given the nature of commercial and industrial property vis-a-vis residential property.

Table VII: The Effects of Taxation by Classification under the Mayors' Association Bill: Number represents the percentage change in tax bills from current status

<u>Population Group</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Open Space</u>
50,000 +	-2% to -6%	+1% to +3%	-3% to 0%	*
25,000 - 50,000	-2% to -6%	+7% to +11%	-3% to +1%	*
10 - 25,000	-6% to -10%	+16% to +22%	+12% to +17%	+11% to +13%
less than 10,000	-5% to -10%	+19% to +26%	+11% to +17%	+16% to +18%
State wide	-3% to -7%	+3% to +7%	0% to +4%	*

¹The range is established by estimates from box B and box D. The higher number in each range comes from estimates from box D.

* For cities and towns over 25,000 population it was assumed that none of the vacant land category was eligible for open space. Rather it was assumed that all vacant land was residential land. This leads to increases in vacant land tax bills of \$273 per parcel (57%) in the first population group and \$67 per parcel (38%) in the 2nd population group. On the other hand, for cities and towns of less than 25,000 population it was assumed that all vacant land was classified as open space. For more on the rationale of the assumptions, and on the data, see the appendices.

Data was not available on the open space category as defined in the classification bill of the Mayors Association. We did try to estimate this effect, however, by assuming that all vacant land in the towns under 25,000 was in fact eligible for the open space designation. On this assumption, we see some increase in tax bills on the open space nee vacant land. However, their shifts are small compared to the increases under 100% and most importantly, the shifts, in absolute dollar amounts, are quite small. Observed in this way the per parcel average increase in tax bills is \$34 in the 10,000 to 25 population group and \$30 in the less than 10,000 population group. The percentage figures in Table VII are quite deceiving.

The classification model presented by the Mayors Association is not a panacea for the ills of the property tax burden in Massachusetts. It is but a first step of a two step program for dealing with these ills. The choice in what will be Question No. 1 facing Massachusetts voters in November, 1978 is not between their current tax bills and tax bills under classification, but rather, given the court mandate in Sudbury, the choice is between taxation by 100% valuation or taxation by classification. Table VIII frames the choice by comparing for each category the changes in average tax bills under 100% valuation versus classification. As can be seen, from a perusal of the Table, residential property is much better off under classification than under 100% valuation.

In sum, the classification model as proposed by the Massachusetts Mayors Association sets up a preferential tax status for residential property. It will stop the shift of taxes now paid by business onto homes. It is clear that classification is a necessary first step in Massachusetts for tax relief.

Table VIII: The Choice Facing Voters:
Taxation by 100% versus Taxation by Classification
(The numbers represent the percentage change
from current status, on average¹)

<u>Population Group</u>	<u>ALL RESIDENTIAL</u>		<u>COMMERCIAL</u>		<u>INDUSTRIAL</u>	
	<u>100%</u>	<u>Classification</u>	<u>100%</u>	<u>Classification</u>	<u>100%</u>	<u>Classification</u>
50,000+	+23%	-2%	-20%	+1%	-32%	-3%
25 - 50,000	+15%	-2%	-18%	+7%	-30%	-3%
10 - 25,000	+5%	-6%	-13%	+16%	-21%	+12%
less than 10,000	+6%	-5%	-13%	+19%	-24%	+11%
State-wide	+15%	-3%	-19%	+7%	-30%	+4%

¹For this table, the numbers show the least favorable case from the point of view of residential property.

V. Summary and Conclusions

This report is the first part of a series of analyses of the effects of 100% valuation versus classification. Already, one unmistakable conclusion is evident: all residential property in Massachusetts will be better off under classification than under 100% valuation. Under the effects of 100% valuation, if done today, single-family tax bills, for instance, will rise 17%, on average, across the state, with the most severe impact in the older, industrial cities. Under classification, residential tax bills will remain within a few percentage points of where they now are.

Taxation by classification is the first step of a two step program necessary to alleviate the property tax burden in Massachusetts. Classification will stop the shift of taxes currently paid by business property onto homes. The second step is a necessary reduction in property tax levels across the Commonwealth. This can and should occur through a concerted program of "tax reform" at the state legislative level. Such a program has been advocated by Mayors and others for many years. But, it should be unmistakably clear that any reduction in the level of property taxes without classification will mean only a tax bill reduction for business property and not for homes.

In November, 1978, the voters of Massachusetts face a choice, either 100% valuation or classification. The only way to stop an increase in residential tax bills caused by 100% valuation is approval of a change in the Massachusetts Constitution to allow classification.

Appendix I. A comparison of 100% Valuation versus
Classification on the Average Single-Family Tax
Bills in 1978; by City and Town.

This appendix compares the current tax bill to the estimated 100% tax bill and the classification tax bill for the average single-family home in the cities and towns which have yet to go to 100% valuation. Again, the estimates are illustrative and not predictive. We report these numbers on single-family homes because single-family homes, in particular, are most adversely affected by 100% valuation.

TABLE A.I -1-AVERAGE SINGLE-FAMILY TAX BILLS IN 1978;NOW, UNDER 100% VALUATION, AND UNDER CLASSIFICATION (241)

<u>CITIES OVER</u> <u>50,000 -21-</u>	<u>NOW</u>	<u>UNDER</u> <u>100%</u>	<u>UNDER</u> <u>CLASSIFICATION</u>
ARLINGTON	\$1895	\$1947 - 1968	\$1743 - 1819
BOSTON	1365	2280 - 2477	1395 - 1425
BROOKLINE	3158	3668 - 3736	3201 - 3292
CAMBRIDGE	1931	2997 - 3222	2073 - 2231
CHICOPEE	971	1303 - 1377	966 - 982
FALL RIVER*	1594	1807 - 1916	1438 - 1597
FRAMINGHAM	1462	1649 - 1685	1363 - 1417
LAWRENCE	799	1334 - 1456	867 - 913
LOWELL	1018	1427 - 1517	1042 - 1094
LYNN	1416	1989 - 2090	1429 - 1485
MALDEN	1248	1728 - 1862	1304 - 1326
MEDFORD	1509	1619 - 1696	1377 - 1415
NEW BEDFORD	1068	1259 - 1376	931 - 1032
NEWTON	2179	2452 - 2575	2205 - 2246
PITTSFIELD	1168	1297 - 1300	902 - 1054
QUINCY	1254	1683 - 1793	1276 - 1309
SOMERVILLE*	1564	1761 - 1983	1422 - 1469
SPRINGFIELD	942	1257 - 1312	777 - 871
WALTHAM	1392	1563 - 1590	1173 - 1221
WEYMOUTH	1378	1454 - 1535	1163 - 1291
WORCESTER	1057	1450 - 1516	928 - 1011

<u>CITIES 25- 50,000 -34-</u>	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
ANDOVER	\$1701	\$1733 - 1767	\$1529 - 1554
ATTLEBORO	1166	1326 - 1347	1012 - 1079
BELMONT	2101	2149 - 2163	2052 - 2084
BEVERLY	1614	1748 - 1781	1498 - 1571
BILLERICA	1449	1499 - 1582	1266 - 1308
CHELSEA	701	1391 - 1498	558 - 601
DANVERS	1397	1412 - 1423	1144 - 1195
EVERETT **	757	1531 - 1787	1060 - 1130
FITCHBURG	1118	1237 - 1257	852 - 972
GLOUCESTER	1736	1884 - 1932	1746 - 1847
HAVERHILL	1201	1513 - 1616	1189 - 1238
HOLYOKE	1092	1696 - 1743	1146 - 1165
LOEMINSTER	974	1104 - 1115	831 - 888
LEXINGTON	1877	2007 - 2054	1764 - 1831
MARLBOROUGH	1050	1324 - 1405	1058 - 1060
MELROSE	1649	1692 - 1710	1537 - 1602
METHUEN	1003	1103 - 1157	943 - 967
MILTON	1652	1689 - 1816	1622 - 1646
NATICK	1472	1488 - 1510	1240 - 1280
NEEDHAM	1702	1793 - 1812	1560 - 1622
NORTHHAMPTON	1148	1290 - 1320	1037 - 1085
NORWOOD	1187	1254 - 1262	1025 - 1046
PEABODY	1543	1624 - 1634	1389 - 1421
PLYMOUTH	633	695 - 787	407 - 538

** Average for 1, 2, 3 families combined.

CITIES 25- 50,000 -34-	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
RANDOLPH	\$1379	\$1430 - 1463	\$1221 - 1263
REVERE	1346	1854 - 1964	1350 - 1430
SALEM	843	1122 - 1345	756 - 776
STOUGHTON	1152	1222 - 1234	1014 - 1079
TAUNTON	932	1057 - 1115	824 - 838
WAKEFIELD	1517	1644 - 1695	1454 - 1477
WATERTOWN	1352	1779 - 1947	1442 - 1444
WELLESLEY	2185	2245 - 2271	2088 - 2118
WEST SPRINGFIELD	1013	1015 - 1030	667 - 789
WESTFIELD	1181	1248 - 1268	1028 - 1052

CITIES/TOWNS 10-25,000 <u>-61-</u>	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
ABINGTON	\$1241	\$1259 - 1289	\$1081 - 1141
ADAMS	802	896 - 924	674 - 748
AGAWAM	990	1064 - 1079	846 - 926
AMESBURY	1115	1179 - 1188	885 - 964
AMHERST	1369	1362 - 1381	1177 - 1247
ATHOL	408	578 - 612	346 - 388
BEDFORD	1331	1372 - 1413	1142 - 1165
BELLINGHAM	1083	1090 - 1107	951 - 1038
BOURNE	773	788 - 809	678 - 740
BURLINGTON	1694	1873 - 1898	1504 - 1560
CANTON	1543	1611 - 1629	1337 - 1416
CLINTON	749	844 - 913	646 - 647
DRACUT	1097	1160 - 1238	1056 - 1062
EASTHAMPTON	1118	1134 - 1167	951 - 1018
FAIRHAVEN	680	795 - 856	604 - 650
FALMOUTH*	1024	1067 - 1127	1023 - 1044
FOXBORO	1373	1347 - 1376	1125 - 1167
FRANKLIN	1482	1516 - 1548	1323 - 1411
GRAFTON	1118	1139 - 1154	1003 - 1074
GREENFIELD	1128	1209 - 1233	920 - 995
HANOVER	1744	1696 - 1731	1465 - 1525
HINGHAM	1724	1699 - 1732	1597 - 1628
HOLBROOK	1076	1078 - 1088	772 - 944
IPSWICH	1408	1438 - 1454	1338 - 1371
LONGMEADOW	2019	2012 - 2031	1928 - 1995

CITIES/TOWNS 10-25,000 -61-	NOW	UNDER 100%	UNDER CLASSIFICATION
LUDLOW	\$ 998	\$1018 - 1087	\$ 825 - 924
MANSFIELD	1121	1264 - 1289	1020 - 1045
MARBLEHEAD	1807	1827 - 1831	1735 - 1784
MARSHFIELD	1437	1420 - 1456	1328 - 1375
MEDFIELD	2107	2054 - 2081	2006 - 2036
MIDDLEBOROUGH	981	1063 - 1087	825 - 863
MILFORD	1097	1319 - 1451	1120 - 1134
MILLBURY	832	845 - 968	648 - 667
NEWBURYPORT	1138	1236 - 1263	1004 - 1071
NORTH ADAMS	932	1144 - 1174	778 - 857
NORTH ANDOVER	1049	1230 - 1295	1060 - 1061
NORTH READING	1420	1393 - 1421	1263 - 1291
NORTHBOROUGH	1461	1490 - 1520	1302 - 1352
NORTHBRIDGE	1081	1152 - 1170	984 - 1040
PEMBROKE	1239	1311 - 1331	1146 - 1239
ROCKLAND	1366	1399 - 1427	1174 - 1236
SAUGUS	1228	1322 - 1332	1057 - 1104
SCITUATE	1600	1585 - 1634	1516 - 1548
SEEKONK	1101	1116 - 1130	967 - 1011
SHARON	1861	1843 - 1865	1700 - 1788
SHREWSBURY	881	916 - 928	759 - 786
SUDBURY	2135	2112 - 2141	1925 - 2037
SWAMPSCOTT	2462	2511 - 2535	2351 - 2419
SWANSEA	825	848 - 857	702 - 777
WALPOLE	1476	1570 - 1612	1314 - 1419

<u>CITIES/TOWN</u> <u>10-25,000 -61-</u>	<u>NOW</u>	<u>UNDER</u> <u>100%</u>	<u>UNDER</u> <u>CLASSIFICATION</u>
WAREHAM	\$ 486	\$ 517 - 523	\$ 302 - 358
WEBSTER	589	759 - 790	551 - 585
WESTBOROUGH	1225	1335 - 1351	1069 - 1104
WESTFORD	1450	1416 - 1448	1301 - 1365
WESTON	2984	2945 - 2957	2849 - 2921
WESTPORT	809	798 - 864	763 - 764
WESTWOOD	1854	1921 - 1948	1696 - 1750
WHITMAN	1343	1335 - 1357	1068 - 1216
WILMINGTON	1386	1485 - 1504	1172 - 1202
WINCHESTER	2332	2351 - 2380	2217 - 2291
WINTHROP	1295	1295 - 1319	1210 - 1236

<u>TOWNS LESS THAN 10,000 -125-</u>	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
ACUSHNET	\$ 780	\$ 810 - 934	\$ 700 - 716
ALFORD	573	523 - 535	463 - 544
ASHBY	919	955 - 964	812 - 883
AVON	1185	1273 - 1294	938 - 975
AYER	538	656 - 745	402 - 438
BERKLEY	816	769 - 788	691 - 733
BERLIN	1142	1122 - 1142	998 - 1046
BLACKSTONE	957	931 - 940	724 - 825
BOLTON	1433	1461 - 1484	1341 - 1380
BOXBOROUGH	1339	1468 - 1481	1291 - 1321
BOXFORD	1780	1702 - 1763	1724 - 1736
BOYLSTON	1107	1101 - 1104	990 - 1028
BRIMFIELD*	827	834 - 891	709 - 779
BUCKLAND	752	752 - 804	548 - 635
CARVER	889	1099 - 1233	904 - 926
CHARLTON	561	574 - 679	525 - 528
CHESHIRE	720	699 - 704	580 - 651
CHILMARK*	580	534 - 540	566 - 583
COHASSET	1972	1909 - 1922	1777 - 1851
CONWAY	729	610 - 648	504 - 573
CUMMINGTON	638	626 - 655	475 - 530
DEERFIELD	507	517 - 559	361 - 391
DIGHTON	689	751 - 812	584 - 588
DUDLEY	779	879 - 911	805 - 811

TOWNS LESS THAN 10,000 -125-	NOW	UNDER 100%	UNDER CLASSIFICATION
DUNSTABLE	\$1213	\$1235 - 1354	\$1197 - 1197
EAST BRIDGEWATER	1328	1404 - 1421	1115 - 1258
EAST BROOKFIELD	733	727 - 737	582 - 635
EDGARTOWN	405	376 - 388	367 - 383
EGREMONT	703	774 - 789	693 - 726
ERVING	115	123 - 245	47 - 70
ESSEX	630	637 - 647	496 - 535
FREETOWN	630	764 - 911	639 - 644
GAY HEAD*	1468	1023 - 1134	1249 - 1333
GEORGETOWN	1403	1427 - 1443	1280 - 1343
GOSNOLD	609	853 - 879	797 - 855
GRANBY	1066	1044 - 1075	888 - 947
GRANVILLE	449	454 - 860	404 - 590
GREAT BARRINGTON	839	1061 - 1084	800 - 873
GROTON	690	705 - 722	593 - 642
GROVELAND	1177	1227 - 1257	1107 - 1162
HANCOCK	355	289 - 300	183 - 212
HANSON	1258	1173 - 1190	1055 - 1140
HARDWICK	866	884 - 909	729 - 799
HARVARD	1671	1742 - 1827	1735 - 1763
HARWICH	723	724 - 733	653 - 709
HATFIELD	686	737 - 750	530 - 571
HAWLEY	345	330 - 333	266 - 307
HOPEDALE*	1177	1411 - 1419	1115 - 1155

<u>TOWNS LESS THAN 10,000 -125-</u>	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
HUBBARDSTON	\$ 972	\$ 952 - 997	\$ 801 - 898
KINGSTON	1062	1186 - 1256	983 - 1050
LAKEVILLE	847	867 - 872	780 - 811
LANCASTER	970	975 - 1004	847 - 881
LENOX	1196	1197 - 1212	1001 - 1060
LEVERETT	760	749 - 800	665 - 728
LEYDEN	1052	975 - 987	929 - 1005
LINCOLN	2455	2374 - 2463	2259 - 2392
LUNENBURG	1022	1028 - 1043	897 - 955
MARION	1032	1042 - 1078	929 - 1016
MATTAPOISETT	939	939 - 985	857 - 894
MAYNARD	1293	1358 - 1387	1080 - 1163
MEDWAY	1310	1328 - 1427	902 - 1260
MENDON	784	783 - 820	682 - 725
MERRIMAC	1026	1117 - 1133	991 - 1024
MIDDLEFIELD	452	458 - 473	391 - 445
MILLIS	1567	1613 - 1622	1373 - 1460
MILLVILLE	711	672 - 692	516 - 590
MONTAGUE	792	806 - 860	594 - 633
MONTGOMERY	889	825 - 842	786 - 828
NAHANT	1368	1353 - 1366	1205 - 1316
NANTUCKET	765	750 - 853	738 - 792
NEW BRAINTREE	1087	1005 - 1015	862 - 982
NEW SALEM	418	425 - 677	413 - 413

<u>TOWNS LESS THAN 10,000 -125-</u>	<u>NOW</u>	<u>UNDER 100%</u>	<u>UNDER CLASSIFICATION</u>
NEWBURY	\$ 800	\$ 835 - 891	\$ 755 - 775
NORFOLK	1598	1541 - 1581	1422 - 1536
NORTH BROOKFIELD	822	858 - 870	679 - 754
NORTHFIELD	618	652 - 657	400 - 485
NORTON	1178	1128 - 1150	966 - 1036
NORWELL	2042	2087 - 2102	1924 - 2007
ORANGE	705	753 - 768	564 - 612
OTIS	253	267 - 280	202 - 238
PAXTON	1224	1216 - 1225	1176 - 1198
PERU	425	400 - 413	285 - 303
PETERSHAM	1046	948 - 1023	841 - 952
PLAINFIELD	632	702 - 839	653 - 669
PLYMPTON	1244	1239 - 1274	968 - 1124
PRINCETON	1254	1183 - 1205	1137 - 1197
PROVINCETOWN	1667	1667 - 1674	1461 - 1525
RAYNHAM	1274	1283 - 1287	1119 - 1153
ROCHESTER	1017	983 - 1041	828 - 920
ROCKPORT	1101	1112 - 1136	1018 - 1056
ROWLEY	1387	1425 - 1440	1295 - 1339
ROYALSTON	535	623 - 660	500 - 547
RUSSELL	446	858 - 925	647 - 648
RUTLAND	828	852 - 864	717 - 780
SALISBURY	869	911 - 934	689 - 756
SANDISFIELD	607	531 - 573	458 - 509
SAVOY	481	426 - 433	338 - 402

TOWNS LESS THAN 10,000 -125-	NOW	UNDER 100%	UNDER CLASSIFICATION
SHEFFIELD	\$ 579	\$ 504 - 525	\$ 436 - 441
SHELBURNE	840	944 - 991	691 - 831
SHIRLEY*	772	745 - 831	651 - 652
SHUTESBURY*	634	630 - 653	559 - 627
SOUTHBOROUGH	1410	1465 - 1518	1282 - 1318
SPENCER	723	734 - 743	594 - 655
STOCKBRIDGE	808	781 - 844	711 - 749
STURBRIDGE	958	971 - 990	800 - 832
SUTTON	828	879 - 964	813 - 801
TOLLAND	235	229 - 325	228 - 284
TOWNSEND	881	892 - 902	764 - 804
TYNGSBOROUGH	1079	1088 - 1097	913 - 984
TYRINGHAM	496	477 - 515	424 - 464
UPTON*	865	851 - 871	702 - 798
UXBRIDGE	817	885 - 1089	790 - 833
WARE*	667	847 - 884	651 - 695
WARREN	691	709 - 732	487 - 532
WENHAM	1762	1775 - 1788	1726 - 1773
WEST BOYLSTON	1046	1097 - 1112	930 - 953
WEST BROOKFIELD*	789	794 - 796	669 - 733
WEST NEWBURY	1218	1225 - 1242	1142 - 1214
WEST STOCKBRIDGE*	807	828 - 854	708 - 776
WEST TISBURY	574	493 - 541	485 - 496
WHATELY	781	658 - 737	660 - 637
WILLIAMSTOWN	1379	1397 - 1414	1218 - 1274

<u>TOWNS LESS THAN 10,000 -125-</u>	<u>NOW</u>	<u>UDNER 100%</u>	<u>UNDER CLASSIFICATION</u>
WICHENDON	\$ 833	\$ 906 - 924	\$ 663 - 733
WINDSOR	472	345 - 370	285 - 327
WORTHINGTON	568	557 - 593	501 - 527

* Indicates a city or town where current assessment data was questionable and needs more work.

RT:plc

Appendix II: Evaluating the Data on Equalized Value

A. Description of Trends: 1976-1978

The data on equalized value employed in this study comes from the biennial equalization survey of the Massachusetts Department of Corporations and Taxation. Data from the 1976 and 1978 surveys by class of property and by city and town were stored and analyzed. The basic data includes assessed value and equalized value by class of property. While the assessed value figures are taken from assessment records, the equalized values are estimates based on a sample of sales, and where necessary appraisals.¹ The question that arises is how good are these estimates of equalized value? In what follows we briefly analyze the data on equalized value.

Total equalized value in Massachusetts rose 11%, on average, from the 1976 survey to the 1978 survey. This compares with a 15% increase from the 1974 survey to the 1976 survey.

A presentation of the distribution of the change in equalized valuation from 1976 to 1978 is set forth in Table A.II.I. Thirty three (33) communities actually had a decrease in equalized values, while 26 communities had an increase of over 30%. Of the 33 communities with a decrease, only 5 were cities and 4 of 5 were cities for which reliable data was not available in 1976. Most of the decreases in equalized values were in small towns from the less than 10,000 population group.

While the average increase was 11%, there was quite a distinct variation by class of property. This is shown in Table A.II.2. where the average equalized value per parcel for 1976 and 1978 is given for each class of property. The data indicates that only single family, and two family homes, plus vacant land appreciated significantly, with an actual decline in value of R4's, RC's and I property. Such divergent trends by class of property strikes us as odd, especially in the inflated real estate market. Unfortunately, there is no independent data for

¹ For a description of the procedure see Department of Corporations and Taxation, 1976 Equalized Valuations of Massachusetts Cities and Towns: Selected Tax Base Information April, 1977 pp. 86-95.

Table A.II.1 Frequency Distribution of Percentage Change in Equalized Value for all 351 Cities/Towns of Massachusetts: 1976 to 1978

Class -%-	Percentage distribution	Frequency distribution
Below - 10%	3%	-12-
-10 to -5.1%	2%	-8-
-5 to -.1%	4%	-13-
0 to 4.9%	17%	-60-
5 to 9.9%	21%	-75-
10 to 14.9%	18%	-62-
15 to 19.9%	16%	-55-
20 to 24.9%	8%	-27-
25 to 29.9%	4%	-13-
30% +	7%	-26-
	100%	Total -351-
Average % Increase in Equalized Value	11%	

Table A.II. 2 Average Parcel Equalized Value by Class of Property with Personal
 Property x1000 for All cities and towns for which data
 was available 1

	<u>1976</u>	<u>1978</u>	<u>% Change</u>
R1	\$ 32,393	\$ 37,196	+14.8%
R2	28,168	31,963	+13.5%
R3	24,557	24,930	0%
R4	88,099	83,188	- 5.5%
RC	60,032	57,059	- 5.0%
C	114,903	121,214	+ 5.0%
I	343,934	319,683	- 7.0%
L	8,252	9,011	+ 9.0%
P	2,984,786	3,318,327	+11.1%

¹ It should be noted that the 1976 data set did not include, because of a lack of data New Bedford, Newton, Revere, Everett, Somerville, and Woburn. An adjustment was made in P to exclude P's equalized value in these communities from the total given in 1978. This makes the '76 and '78 valuations comparable.

for Massachusetts with which we are familiar that we could compare to these numbers.¹

However, as we will see, the three categories of property for which there is an ample sample size are R1's, R2's and L. For other categories, there is not an adequate sample size.

B. Construction of the Equalized Value Numbers

Our study of the equalized value numbers has lead us to be very cautious in the use of these numbers because of two methodological drawbacks in the construction of the equalized values. These drawbacks are in the construction of estimates for the value of personal property and in the sample sizes for the value estimates of R4, C, and I property

The Equalized Values of Personal Property

Equalized values or sales data on real property are obtained primarily through sales data or when necessary by appraisals. For personal property there are two categories of personal property - "certified" personal and "other" personal. In the certified personal property category is included the valuation of gas pipe lines and the machinery, poles, wires and underground conduits, wires and pipes of telephone and telegraph companies. The "other" category of personal property includes, at least theoretically, all personal property of inhabitants of Massachusetts, wherever situated. This includes "goods, chattels, money and effects" etc. unless exempted. Realistically, most other personal property is the personal property of electric companies and other utilities not included in the certified category of personal property.

The reliability of the equalized value estimates of personal property is suspect according to most quarters. Mass Fair Share, for instance, issued a report in March, 1978 raising some questions about the valuations of 769 miles of gas pipelines owned by Tenneco Inc., and Algonquin Gas

¹ Comparative analyses of the '76 versus '78 surveys have been done. Reports are in draft stages and will be available from the author shortly.

Transmission Co. These valuations affect 140 cities and towns. Although no agreement has been reached on the issue, Commissioner Fitzmaurice has been quoted in the Boston Globe as saying that the pipelines "probably are undervalued...."

Discussions with people in the Local Property Tax Bureau of the Department of Corporations and Taxation -- a hard working and sorely understaffed group -- indicated estimates of "other" personal property values are determined based on what is the composite ratio on real property in a city or town. The assumption here is that there is a relationship between the assessments on real and personal property. For instance, if the composite ratio is 35%, then the personal property ratio is put at 50%. Such a procedure "assumes" personal property is assessed higher than real property, and deliberately errs on the side of conservatism in placing a value on personal property.

One former top official in the Local Property Tax Bureau said that the personal property values are "total arbitrary". After a second thought, this comment was reduced to "best reasonable judgement". No matter which is the best description of personal property valuations, the data is suspect.¹ In sum, we do not have any good estimates of the value of personal property. In addition, the estimates we do have, are undervalued because of the estimating procedure.

Samples in Estimating Equalized Values

As we indicated earlier, estimates of value are based on a sample of sales and appraisals. Table A.II.3 shows the number of sales for each class of real property, while Table A.II.4 shows the percentage distribution. The sample size for 1978 was significantly larger, although appraisal figures are not available, then in 1976. According to Mr. Arthur Ecclestone

¹ We were told by one person that estimates of utility valuations in parts of Boston were taken from sources at Boston Edison, who claimed to know the current assessment-to-sale ratio on Edison's property. This is hardly a reliable, independent source.

Table A.II.3: Number of Sales for the 1978 Equalization Survey

<u>Population group</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>	<u>R4</u>	<u>RC</u>	<u>C</u>	<u>I</u>	<u>L</u>
50,000+	12,532	4208	2234	1267	282	976	77	955
25-50,000	13,325	1985	528	438	112	520	80	1309
10-25,000	17,925	1126	342	334	133	495	53	3193
less than 10,000	10,005	437	79	129	136	305	38	3181
State-wide	53,787	7,756	3,183	2,168	663	2,296	248	8638

Table A.II. 3: Distribution of Sales for the 1978 Equalization Survey

<u>Population group</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>	<u>R4</u>	<u>RC</u>	<u>C</u>	<u>I</u>	<u>L</u>
50,000+	56%	19%	10%	6%	1%	4%	.3%	4%/100%
25-50,000	73%	11%	3	2%	.6%	3%	.4%	7%
10-25,000	76%	5%	1%	1%	.6%	2%	.2%	14%
less than 10,000	70%	3%	.6%	.9%	1%	2%	.3%	22%
State-wide	68%	10%	4%	3%	.8%	3%	.3%	11%

of the Department of Corporations and Taxation, the 1978 appraisal numbers will not show much absolute change from the 1976 numbers. What can be seen immediately is that for the state as a whole the two classes of property with the most sales (no appraisals are done for these classes) are R1's and L. On the other hand, C & I have a very small share of sales in the overall sample. The implication is that estimates of value for R1's and L's are more reliable than estimates for other categories of property. State-wide 78% of the sales are R1's and L's. Only 3.3% are C and I sales. When this is studied by population groups, we notice that R1's and L comprise 90% and 92% of all sales in the 10-25,000, and the less than 10,000 population groups, respectively. On the other hand, industrial and commercial sales are quite small. Hence, we must be cautious in using C & I value estimates at all times and especially for the smaller population groups. Because of the small (and in some instances no) samples on C and I we only will report estimates for the effects of 100% valuation and taxation by classification only by those cities where the sample seems reasonable in size. Any estimates of either 100% valuation or classification should be considered only after considering the sample sizes,¹ for each city and town. These tables are available from the author.

¹ Of course, besides sample size problems in the data, there is also the questions of how representative is the sample and how much dispersion is there around the average the former question we have no way to answer. Future reports will deal with dispersion around the average.

Appendix III: Testing the "Predictability" of Data on Equalized Value

The analysis in Appendix II raises more questions than it can answer. Unfortunately, there is no comparable data set against which we can measure the "goodness" of the equalized value estimates for each city or town. One test we did run on the data, was to test the "predictability" of the equalized study survey. This was done by comparing the "predicted" tax bills at 100% valuation for each class of property as given by the 1976 equalization survey to what were actual tax bills in 1978. In this way we were able to judge how good was the data in "predicting" the effects of 100% valuation in a sample of 32 towns that went to 100% valuation in the period 1976 to 1978. In making this analysis we employed the 1978 property tax levy for both dates.¹

The results overall were not encouraging, although the prediction errors were not terribly large on single family tax bills. For single family tax bills the average 1978 tax bill was within 3.7% of the "predicted" 100% tax bill.² In fact, except for four communities the difference between the predicted tax bill and the 1978 tax bills was less than \$100. The average absolute error was, in fact, \$40.³ However, this is the end of the good news on the "predictability" of the data. For the other classes of property the errors were quite large. The errors range from 138% on the predictions for A/H property to 26.3% on personal property. Table A.III.1. presents the average percentage error in the "predictability" on the data by class.⁴

¹ No adjustment was made for new construction or any demolition of the tax base over the 2 year period. However, such as adjustment is never made in "predicting".

² This average is a weighted average where the weight is the 1976 100% or predicted tax bill.

³ In 16 communities the error was positive, i.e., the prediction was less than actual, and in 16 communities the error was negative, on R1's.

⁴ The fact that the data is not good in all classes in "predictability" is not a criticism of the data collection methods of the Dept. of Corp. & Taxation. It simply says that there is a difference between predictions based on equalized values and on what the mass appraisals firms finally write down as assessments. Who is right or who is wrong, is anyone's guess.

Table A.III.2

Average Percentage Error of the "Predictability"
of Data by Class: 32 towns

<u>Class of Property</u>	<u>Average Percentage Error</u>
R1	3.7%
R2	62.7%
R3	53.7%
R4	42.1%
RC	58.8%
C	44.7%
I	40.9%
AH	138%
L	42.9%
P	26.3

Obviously, the extremely large errors in "predicting" for all but the R1 class of property, cancel each other out, on average. This is the only way one can explain the ability of the data to "predict" the R1 tax bills, since the data are interdependent.

It is probably a fair hypothesis that the results in Table A.III.1. reflect, at least, in part, the fact that the 32 towns are small and primarily single family residential communities. Hence there is a large sample of sales data on R1's but little available in the way of good data on the other classes of property.¹ This point is supported by looking at the distribution of sample size by class of property for the 32 towns. This is given in Table A.III.2.

Table A.III.2 Distribution of Sample Size
by Class of Property for 32 towns: 1976 Survey

<u>Class</u>	<u>% of Sales</u>	<u>Number of Sales</u>
R1	65%	2618
R2	2	72
R4	.4	17
C	2	82
I	.07	3
L	<u>30</u>	<u>1217</u>
	100%	4009*

* In addition to sales, 96 appraisals were made.

A final point is that the average total "predicted" equalized value was "off" by 22.8% from what was the 1978 assessed value for the sample. In every case, except for the town of Concord, the "predicted" equalized value was lower than the 1978 assessed value.

¹ This hypothesis can also be extended to explain why personal property has the second lowest percentage error. For personal property the valuation of certified personal is set by the Dept. of Corp. and Taxation. Since this is assumed to be at 100% of value at all times, this number is used in the new assessments. Hence, only non certified personal property is adjusted during revaluation.

In sum, the "predictability" of the data is not good. In the sample of 32 towns, the errors in prediction on the other classes of property offset each other, in part, and were absorbed by the large volume of R1 parcels in these communities. The large errors are understandable given the small sample size, for, say, commercial and industrial property. This leads us to caution all readers of this report that the numbers herein are illustrative and not predictive.

Appendix IV: Methodology and Data for Estimating the Impact
of 100% Valuation and Classification
By John Avault and Raymond Torto

In estimating the impact of 100% valuation or classification, the focus of our concern is the redistribution of tax burden and property values by class of property. This analysis is done by assuming that total revenues from the property tax do not change and that all changes in tax burden and property values are due to changes in the share of taxes paid by different classes of property.

In making this analysis, the conclusions are only as good as the data, i.e. of the estimates of equalized value. There is much suspicion as to the predictability of this data and the analysis herein must be seen as illustrative and not predictive.

An analysis of this sort can be presented in two ways. One is to report the "initial impact" of tax redistribution and the other is to report "equilibrium" or "steady state" numbers. In addition because of problems inherent, not only in all the data estimates, but in particular, in the personal property estimates we report results based on two assumptions. One, that personal property numbers are accurate and should be used and two, that they are not accurate and should not be used. Under this latter assumption we make our estimates assuming personal property taxes will not change. This gives us, then, a 2 by 2 matrix of results as shown in Chart I.

Chart I: Presentation of Data:

	Personal Property Shifting	Personal Property held harmless
Initial Impact estimates	A	C
Equilibrium estimates	B	D

From the point of view of residential property, in particular, the severest impact of 100% valuation would be given by box A and the least severe impact would be given by box D. In other words, highest increases in residential tax bills would be demonstrated by results in box A and the least highest by box D under 100% valuation.¹

Again, from the point of view of residential property, under classification box A would show the most favorable case for residential property and box D the least favorable. In other words, box A would show lower tax bills for residential property, than would box D.

As indicated in the text, the sample has been divided into two sample groupings. A listing of the cities and towns in each grouping--those facing 100% valuation and those with an assessment-to-sales ratio of greater than 90% or in compliance as reported in Sudbury II--is given in Tables A.IV.1 and A.IV.2. Table A.IV.3 lists towns for which adequate data was not available.

¹Of course, equilibrium estimates are lower because of the assumption of a tax capitalization effect, i.e., as taxes increase, value falls, with a subsequent fall in taxes, etc. In other words, equilibrium analysis assumes a drop in the value of property due to tax shifting.

The MASSTAX Data Base

The data file MASSTAX now contains the following information for each of 351 Massachusetts communities: assessed values, equalized values, and number of taxable parcels broken down into ten property categories:

- R1 - one family
- R2 - two family homes
- R3 - three family homes
- R4 - apartment properties
- RC - mixed residential & commercial
- C - Commercial
- I - Industrial
- AH - agricultural/horticultural
- L - vacant land
- Personal property

The figures on assessments and equalized values are based on those reported in the 1978 Equalization Survey of the Massachusetts Department of Corporations and Taxation as revised by the Department for approximately 30 cities and towns following the April hearings. Assessed values are official figures for FY 1978. Current tax rates are generated internally from the data, and are not plugged in independently. The Taxation Department's equalized values were estimated from a survey of property sales and appraisals covering the eighteen month period ending July 1, 1977. In light of the dynamic nature of property values and the survey coverage period, these estimates are seen to center around January 1, 1977 and so they were inflated to approximate July 1, 1978 values. All real property values were assumed to be growing at eight percent per annum with yearly compounding of growth. Accordingly, the survey equalized value estimates were multiplied by 1.122 ($(1.08)^{1.5} = 1.122$) to bring

them up to date. In the special case of Boston base estimates were synthesized from the 1978 Equalization Survey (apartment properties), B.R.A. Research Department preliminary analysis of 1975 sales transactions (1, 2, and 3 family homes), and the unrevised 1976 Equalization Survey (all others). These estimates most appropriately pertain to July 1, 1976 and were therefore inflated for two years of eight percent value growth by multiplying by 1.166 ($(1.08)^2 = 1.166$).

The available data on the numbers of realty parcels are for FY 1976. Although these counts may now be out of date, this affects only the estimates of average tax bills and does not disturb the calculation of aggregate taxes or aggregate and percentage tax changes.

FY 1973 property tax levies were reported in Municipal Financial Data, 1978 Massachusetts Taxpayers' Foundation.

Population and per capita income statistics are derived from the U.S. Department of Commerce, Bureau of the Census: Current Population Reports, series p-25, No. 669, issued May, 1977. The population estimates are for 1975. The 1974 income figures were uniformly multiplied by 1.25 to account for the twenty five percent growth in Massachusetts total personal income between 1974 and 1977 as reported in State Budget Trends 1970-1979; Massachusetts Taxpayers' Foundation 1978.

The data available from Corporations and Taxation does not correspond perfectly to the categories proposed in the Massachusetts Mayors' Association. Therefore, in order to make estimates as to the effects of classification a number of assumptions were necessary. First, we assumed all vacant land

in cities and towns over 25,000 population would be classified as residential and assessed accordingly. For cities and towns under 25,000, it was assumed that all vacant land is assessed as open space. Second, we did not allocate RC property into its respective classes. We felt this would call for too heroic assumptions. Hence, RC's tax burden is not allocated either under estimates of the effects of 100% or classification. Its valuation is used, however, to calculate total valuation. We further assumed that the valuation on RC was evenly divided into R and C and thus applied a ratio of 45% to RC. Our analysis of RC, especially for Boston leads us to be very suspicious of this grouping. More on this will be available in further reports on the data. Third, both A/H and P property is assumed to be valued at 100% under classification.

Anticipating Tax Capitalization and Estimating Equilibrium Taxes

A special problem implicit in property tax equalization is the mutual interdependence of property taxes and values. A property's taxes depend on its value while at the same time the value is influenced by taxes. Our "Equilibrium" calculations represent an attempt to estimate the point at which property values and equalized taxes are properly balanced.

Tax Capitalization Calculation Methods

The process by which property taxes affect property values is called tax capitalization. The basis for this phenomena is to be found in the fact that home owners' total periodic outlay for housing costs is limited by their income and that commercial property investors demand a return on their investment comparable to that yielded by other similar investment opportunities.

The major components of home ownership expenses are:

(1) mortgage payments and (2) property taxes. When purchasing a home the buyer must select one that he can afford; that is, the sum of periodic tax and mortgage payments must not exceed the allowable outlay available from his income.

Mortgage terms of 8 1/2% for a 20 year repayment period have been typical. Constant payment tables show that these terms demand monthly payments of \$8.678 for every \$1,000 mortgaged. This is \$104.13 per year for every \$1,000 mortgaged or 10.413% of the mortgaged amount to be paid annually. So every \$100 of mortgage amount is equivalent to \$10.41 of the mortgage component of annual housing expense.

In our calculation, we have conservatively treated the entire purchase price of a home as mortgaged. We shall see that this treatment is indeed conservative since it implies smaller value changes in response to a given tax change.¹⁾

We must now ask what happens if tax bills change. Imagine that a home's taxes increase by \$1,000. The owner may be able to meet this added expense by cutting back on other budget items (perhaps home maintenance) or he may decide to sell. If he tries to sell he will encounter prospective buyers who have incomes and housing expense budgets similar to his own. Since the taxes are \$1,000 higher, the amount of annual housing budget available for mortgage payments will be \$1,000 less. In order to reduce annual mortgage payments by \$1,000 the buyer must agree to a purchase price that is \$9,615 ($\$1,000 / .104$) less than he could have afforded to pay without the tax increase.²⁾ The sale price of the house has declined and the housing budget required to own the house has not changed. This is the process embodied in the examples of one, two, and three family homes.

In our estimates, we treat all properties other than one, two, and three family homes as investments purchased for the sake of the income they produce. We assume that a 12% rate of return is expected on the purchase price investment to compensate the buyer for interest that his money could earn elsewhere, property depreciation, and the risk and management burden associated with real estate investment.

1) See Footnote²⁾ and accompanying text.

2) If the purchase price is treated as being only 80% mortgaged, then annual mortgage payments would be only 8.32% (80% of 10.4%) of the purchase price. A \$1,000 tax increase would then result in a sale price decline of \$12,019 ($\$1,000 / .0832$).

A property yielding a net annual operating income of \$10,000 would therefore be worth \$83,333 ($\$10,000/.12$) to an investor-buyer.

Investment property sales value depends on net operating income and net operating income can change due to property tax changes. If an investment property is subject to a \$1,000 tax expense hike, its income net of all expenses will drop by \$1,000. If this property were now sold to another investor, the new buyer would demand a price \$8,333 ($\$1,000/.12$) lower than he would have agreed to without the tax increase.

Equilibrium Estimates

The first step in calculating equilibrium values and taxes is to ascertain the income associated with business properties and the expenses associated with homeowners' properties. Since these concepts are two sides of the same coin, let us use the term Return to refer to both.

Defining: R_i = Return for property type i

V_{i0} = Present equalized value for property type i

T_{i0} = Present property taxes for property type i

C_i = Tax capitalization rate for property type i
 where $C_i = .104$ for 1, 2, & 3 family homes
 and $C_i = .12$ for other realty.

We have $R_i = C_i V_{i0} + T_{i0}$ as our starting point.

To calculate property taxes, we must further define:

t = tax rate

p_i = the assessment to value ratio specified by the classification schedule.

B_i = the amount of assessed value specially exempted from taxation (i.e., the \$5,000 residential parcel exemption).

Now the balance equilibrium market value for each real property type "i" (V_{iE}) is:

$$V_{iE} = \frac{(R_i + t \cdot B_i)}{(c_i + p_i \cdot t)}$$

In the above equation ($t \cdot B_i$) is the amount of taxes abated due to the special exemption and $(c_i + p_i \cdot t)$ is the ad valorem rate by which tax and mortgage payments must be met for homeowner properties or by which profit demands and taxes must be met for income properties.

The assessed value based on this balanced equilibrium market value is: $AV_{iE} = p_i V_{iE} - B_i$. Therefore, the equilibrium property taxes are:

$$T_{iE} = t \cdot AV_{iE}.$$

One special complication that arises from the adjustments of values to tax changes at different tax capitalization rates is the fact that the tax base and therefore the tax rate may change. For this reason it was necessary to estimate the equilibrium tax rate "t" before attempting the above calculations.

To do this we utilized the definition of tax rate as the property tax levy (L) divided by the total effective tax base of classification and capitalization adjusted assessments. Since Personal Property (V_{pp}) was assumed not to capitalize, it enters the formula separately:

$$t = \frac{L}{V_{pp} + \sum \left[\left(\frac{(R_i + t B_i) p_i}{(C_i + p_i t)} \right) - B_i \right]}$$

The correct value of "t" was approximated by successive iterations. The pre-capitalization value of "t" was substituted into the right hand part of the identity to achieve a new estimate of "t". This process was repeated, substituting this time the new estimate of "t" into the right hand part of the equation. The procedure of calculating and re-substituting was continued until successive approximations of the equilibrium tax rate differed by less than a hundredth of a percent.

For the tax simulations in which Personal Property was "held harmless", the above methods were used but with Personalty's assessed value removed from the effective tax base and its tax payments removed from the levy.

TABLE IV.1 CITIES/TOWNS NOT AT 100% VALUATION
AND FOR WHICH DATA WAS AVAILABLE (n= 241)

<u>Cities over 50,000 -21-</u>	<u>Population</u>		
Arlington	50,223		
Boston	637,986		
Brookline	53,150		
Cambridge	102,095		
Chicopee	58,431		
Fall River	100,339		
Framingham	65,564		
Lawrence	67,515		
Lowell	91,177		
Lynn	80,240		
Malden	55,814		
Medford	60,702		
New Bedford	100,345		
Newton	89,183		
Pittsfield	55,299		
Quincy	91,487		
Somerville	80,596		
Springfield	168,785		
Waltham	56,757		
Weymouth	56,854		
Worcester	172,342		
		% State	% Sample
Total=2,294,884		40%	47%

<u>Cities 25- 50,000 -34-</u>	<u>Population</u>
Andover	26,050
Attleboro	32,650
Belmont	27,660
Beverly	37,382
Billerica	35,831
Chelsea	25,066
Danvers	25,007
Everett	39,713
Fitchburg	39,070
Gloucester	27,209
Haverhill	44,399
Holyoke	46,790
Leominster	35,429
Lexington	32,477
Marlborough	30,249
Melrose	32,213
Methuen	35,516
Milton	27,214
Natick	31,102
Needham	29,936
Northhampton	27,695
Norwood	31,316
Peabody	45,503
Plymouth	26,907
Randolph	29,206
Revere	41,292

Cities 25-
50,000 -34-

Population

Salem	38,545
Stoughton	25,717
Taunton	42,148
Wakefield	26,041
Watertown	36,075
Wellesley	26,593
West Springfield	28,249
Westfield	32,863

Total=1,119,113

% State	% Sample
19%	23%

Cities/Towns
10-25,000 -61-

Abington	13,456
Adams	11,270
Agawam	24,305
Amesbury	13,752
Amherst	22,308
Athol	10,849
Bedford	12,314
Bellingham	14,461
Bourne	11,362
Burlington	24,306
Canton	18,114
Clinton	13,015
Dracut	20,287
Easthampton	15,084
Fairhaven	16,005
Falmouth	20,648

<u>Cities/Towns</u> <u>10-25,000</u> -61-	<u>Population</u>
Foxborough	14,690
Franklin	18,379
Grafton	10,630
Greenfield	19,087
Hanover	10,533
Hingham	19,544
Holbrook	11,849
Ipswich	11,551
Longmeadow	16,676
Ludlow	18,183
Mansfield	12,447
Marblehead	21,574
Marshfield	19,450
Medfield	10,031
Middleborough	14,146
Milford	23,366
Millbury	12,121
Newburyport	16,341
North Adams	18,424
North Andover	15,864
North Reading	12,125
Northborough	10,563
Northbridge	12,165
Pembroke	12,374
Rockland	17,028
Saugus	24,716

Cities/Towns
10-25,000 -61-

Population

Scituate	17,829
Seekonk	11,351
Sharon	13,592
Shrewsbury	21,965
Sudbury	14,951
Swampscott	14,329
Swansea	15,052
Walpole	18,504
Wareham	15,078
Webster	14,444
Westborough	13,954
Westford	12,951
Weston	11,478
Westport	12,636
Westwood	14,019
Whitman	13,476
Wilmington	17,656
Winchester	22,672
Winthrop	20,359

% State % Sample

Total=961,689

17%

20%

Towns less
than 10,000 -125-

Population

Acushnet	8,439
Alford	337
Ashby	2,348
Avon	5,315
Ayer	6,718

<u>Towns less than 10,000</u>	<u>-125-</u>	<u>Population</u>
Berkley		2,300
Berlin		2,280
Blackstone		6,486
Bolton		2,427
Boxborough		2,642
Boxford		4,565
Boylston		3,326
Brimfield		2,170
Buckland		1,889
Carver		4,280
Charlton		5,598
Cheshire		3,199
Chilmark		401
Cohasset		7,785
Conway		1,152
Cumington		651
Deerfield		4,255
Dighton		5,076
Dudley		7,857
Dunstable		1,534
East Bridgewater		9,485
East Brookfield		1,980
Edgartown		2,141
Egremont		1,220
Erving		1,308
Essex		2,872

<u>Towns less than 10,000</u>	<u>-125-</u>	<u>Population</u>
Freetown		5,417
Gay Head		146
Georgetown		5,912
Gosnold		100
Granby		5,609
Granville		1,183
Great Barrington		7,068
Groton		5,497
Groveland		5,253
Hancock		697
Hanson		8,331
Hardwick		2,172
Harvard		3,514
Harwich		7,786
Hatfield		3,090
Hawley		267
Hopedale		4,014
Hubbardston		1,647
Kingston		6,776
Lakeville		5,118
Lancaster		5,673
Lenox		5,718
Leverett		1,281
Leyden		452
Lincoln		6,374
Lunenburg		8,175

Towns less
than 10,000 -125-

Population

Marion	3,764
Mattapoissett	5,376
Maynard	9,901
Medway	8,166
Mendon	2,714
Merrimac	4,202
Middlefield	307
Millis	6,534
Millville	1,744
Montague	8,321
Montgomery	600
Nahant	4,229
Nantucket	5,559
New Braintree	700
New Salem	643
Newbury	4,239
Norfolk	5,960
North Brookfield	4,150
Northfield	2,470
Norton	9,869
Norwell	8,999
Orange	6,445
Otis	898
Paxton	3,706
Peru	464
Petersham	1,099

<u>Towns less than 10,000</u>	<u>-125-</u>	<u>Population</u>
Plainfield		366
Plympton		1,679
Princeton		2,072
Provincetown		3,947
Raynham		7,720
Rochester		2,284
Rockport		6,284
Rowley		3,455
Royalston		878
Russell		1,580
Rutland		3,692
Salisbury		4,967
Sandisfield		660
Savoy		467
Sheffield		2,723
Shelburne		1,976
Shirley		4,740
Shutesbury		790
Southborough		6,326
Spencer		9,895
Stockbridge		2,228
Sturbridge		5,522
Sutton		4,969
Tolland		215
Townsend		5,125
Tyngsborough		4,870

<u>Towns less than 10,000</u> -125-	<u>Population</u>		
Tyringham	328		
Upton	3,777		
Uxbridge	8,528		
Ware	8,679		
Warren	3,456		
Wenham	3,359		
West Boylston	6,284		
West Brookfield	2,927		
West Newbury	2,626		
West Stockbridge	1,355		
West Tisbury	685		
Whately	1,171		
Williamstown	8,247		
Winchendon	6,855		
Windsor	569		
Worthington	810		
		% State	% Sample
Total=	479,541	8%	10%
Mass. Total=	5,789,478	Sample % of State = 84%	
Sample Total=	4,855,227		

TABLE IV.2 CITIES/TOWNS IN MASSACHUSETTS WITH ASSESSMENTS OVER
90% as of 1977 - (103)

<u>Town or City</u>	<u>Population</u>
Acton *	18,209
Ashburnham *	3,834
Ashfield	1,420
Ashland	8,906
Auburn	15,626
Barnstable	26,699
Barre *	3,983
Becket *	1,153
Belchertown	6,361
Bernardston *	1,776
Blandford *	954
Braintree	36,822
Brewster	3,709
Bridgewater *	13,613
Brockton	95,688
Brookfield *	2,175
Carlisle *	3,178
Charlemont	1,050
Chatham	6,027
Chelmsford	31,749
Chester *	1,114
Chesterfield	887
Clarksburg *	1,958
Concord *	17,270
Dalton *	7,504

<u>Town or City</u>	<u>Population</u>
Dartmouth	21,586
Dedham	26,924
Dennis	9,351
Douglas	3,174
Dover *	4,923
Duxbury *	10,601
East Longmeadow *	13,132
Eastham *	3,069
Easton	13,138
Florida *	720
Gardner	19,349
Gill	1,276
Goshen	621
Halifax	4,684
Hamilton *	6,675
Hampden *	4,751
Heath	423
Holden	13,629
Holliston *	12,921
Hopkinton	6,405
Hudson	16,827
Hull *	10,572
Huntington	1,730
Lanesborough	3,237
Lee	6,319
Leicester	8,887
Littleton	6,629
Lynnfield	12,009
Manchester *	5,542

<u>Town or City</u>	<u>Population</u>
Mashpee	2,496
Middleton *	4,032
Monroe	186
Monterey	758
Mount Washington	78
New Ashford	160
New Marlborough *	1,087
North Attleborough	19,120
Oak Bluffs	1,724
Oakham *	846
Orleans *	4,369
Oxford *	10,822
Palmer	11,755
Pepperell	6,745
Phillipston *	962
Plainville *	5,463
Reading	23,696
Rehoboth	7,009
Richmond	1,689
Rowe	313
Sandwich *	6,358
Sherborn	4,116
Somerset	19,205
South Hadley	16,568
Southampton	3,770
Southbridge	16,910
Southwick	7,028
Sterling *	4,901

<u>Town or City</u>	<u>Population</u>
Stoneham	21,564
Stow	4,688
Sunderland *	2,763
Templeton *	6,079
Tewksbury	24,049
Tisbury	2,754
Topsfield	5,913
Truro	1,260
Wales *	1,033
Warwick	582
Washington	486
Wayland	13,282
Wellfleet *	1,973
West Bridgewater	6,429
Westhampton *	946
Westminster *	4,525
Wilbraham *	13,139
Williamsburg *	2,292
Woburn	35,329
Wrentham	7,342
Yarmouth	17,427

Group 916,790 = 15.8%

Total 5,789,478

* Revaluation, effective for FY 1978

Sources: Municipal Financial Data, 1978, Mass
Taxpayers Foundation, Inc.

Department of Corporations and Taxation

Table IV. 3: Towns for which adequate Data was not available. (7)

<u>TOWNS</u>	<u>POPULATION</u>
Colrain	1,493
Hadley	3,802
Hinsdale	1,749
Holland	1,347
Monson	1,376
Pelham	1,153
Wendell	631

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